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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/645,639

08/22/2003

Jong-byun Lee

101-1001

8017

38209

7590

05/17/2007

STANZIONE & KIM, LLP

919 18TH STREET, N.W.

SUITE 440

WASHINGTON, DC 20006

EXAMINER

BRINICH, STEPHEN M

ART UNIT

PAPER NUMBER

2625

MAIL DATE

DELIVERY MODE

05/17/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**UNITED STATES DEPARTMENT OF COMMERCE****U.S. Patent and Trademark Office**

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| APPLICATION NO./<br>CONTROL NO. | FILING DATE | FIRST NAMED INVENTOR /<br>PATENT IN REEXAMINATION | ATTORNEY DOCKET NO. |
|---------------------------------|-------------|---|---------------------|
| 10645639                        | 8/22/03     | LEE, JONG-BYUN                                    | 101-1001            |

STANZIONE & KIM, LLP  
919 18TH STREET, N.W.  
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WASHINGTON, DC 20006

**EXAMINER**

Stephen M. Brinich

| ART UNIT | PAPER |
|----------|-------|
|----------|-------|

2625

20070514

**DATE MAILED:**

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner for Patents**

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/645,639             | LEE, JONG-BYUN      |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Stephen M. Brinich     | 2625                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-23 and 25-39 is/are allowed.
- 6) ☒ Claim(s) 24 and 40-47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/22/03</u> .   | 6) <input type="checkbox"/> Other: ____.                          |

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**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 43 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 43, lines 1-2, the phrase "the first neighboring pixel is disposed in a direction of the concerned pixel" is unclear as to which direction the first neighboring pixel occupies with respect to the concerned pixel.

***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 24 & 40 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 24 & 40 are drawn to functional descriptive material NOT claimed as residing on a computer readable medium. MPEP 2106.IV.B.1(a) (Functional Descriptive Material) states:

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Data structures not claimed as embodied in a computer-readable medium are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer.

Such claimed data structures do not define any structural or functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure's functionality to be realized.

Claims 24 & 40, while defining a recording medium encoded with data readable by a computer, does not strictly define a "computer-readable medium" and is thus non-statutory for that reason. A recording medium encoded with data readable by a computer can range from paper on which the program is written. The examiner suggests amending the claim to embody the program as "a computer readable medium storing (or "encoded with") a computer program" in order to make the claim statutory.

In contrast, a claimed computer-readable medium encoded with the data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory." - MPEP 2106.IV.B.1(a)

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***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b); by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 41-47, insofar as claim 43 is understood, are rejected under 35 U.S.C. 102(e) as being anticipated by Gong et al (US 6587115).

Re claims 41 & 47, Gong et al discloses (column 7, line 40 - column 12, line 54, particularly the specific sections referenced below) a digital image quality improving arrangement in which the processor classifies pixel types (column 12, lines 18-26), block feature types (column 7, lines 42-50), and area (i.e. character or image) types (column 11, lines 26-32). The image is then processed (column 12, lines 58-63) pixel by pixel on the basis of these determinations.

Re claim 47, individual pixels are classified (column 12, lines 43-49), which inherently requires incrementing the pixel under consideration until all pixels have been considered.

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Re claim 42-44, Gong et al discloses (column 11, lines 33-47; column 12, lines 40-42) that the types of some pixels are determined on the basis of neighboring pixels in the eight various directions on the pixel grid and the local block feature type.

Re claim 46, one of the types of block feature which may apply to a pixel is a "picture (i.e. image) block" type (column 12, lines 40-41).

***Allowable Subject Matter***

7. Claims 1-23 & 24-39 are allowed.

8. Claims 24 & 40, insofar as they are understood, would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. §101, set forth in this Office action.

9. The following is a statement of reasons for the indication of allowable subject matter:

Re claims 1, 24, 25, 28, 33, & 40 (insofar as claims 24 & 40 are understood), the art of record does not teach or suggest the recited history information updating arrangement in conjunction with the recited determination of pixel types, block feature types, and area types and the recited selective processing in accordance with those determinations.

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**Conclusion**

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ng, Nagarajan et al, and Kondo et al disclose examples of pixel and block classification in image processing.

11. Any inquiry concerning the contents of this communication or earlier communications from the examiner should be directed to Stephen M. Brinich at 571-272-7430.

Any inquiry relating to the status of this application or proceeding or any inquiry of a general nature concerning application processing should be directed to the Tech Center 2600 Customer Service center at 571-272-2600 or to the USPTO Contact Center at 800-786-9199 or 571-272-1000.

The examiner can normally be reached on weekdays 8:00-5:30, alternate Fridays off.

The examiner's unit designation has been changed from "Art Unit 2624" to "Technology Division 2625" (as of March 20, 2006).

If attempts to contact the examiner and the Customer Service Center are unsuccessful, supervisor David Moore can be contacted at 571-272-7437.

Faxes pertaining to this application should be directed to the Tech Center 2600 official fax number, which is 571-273-8300 (as of July 15, 2005).



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Hand-carried correspondence may be delivered to the  
Customer Service Window, located at the Randolph Building, 401  
Dulany Street, Alexandria, VA 22314.

A handwritten signature in black ink that reads "Stephen Brinich". The signature is written in a cursive style with a large, stylized 'S' and 'B'.

Stephen M Brinich  
Examiner  
Technology Division 2625

smb  
May 14, 2007